REMARKS/ARGUMENTS

In view of the foregoing amendments and the following remarks, the applicants respectfully submit that the pending claims recite statutory subject matter under 35 U.S.C. § 101, are not anticipated under 35 U.S.C. § 102 and are not rendered obvious under 35 U.S.C. § 103. Accordingly, it is believed that this application is in condition for allowance. **If, however, the Examiner believes that there are any unresolved issues, or believes that some or all of the claims are not in condition for allowance, <u>the applicants respectfully request that the Examiner contact the undersigned to schedule a telephone Examiner Interview before any further actions on the merits</u>.**

The applicants will now address each of the issues raised in the outstanding Office Action.

Objections

The drawings are objected to as failing to comply with 37 C.F.R. § 1.84(p)(5) because (i) they purportedly lack reference symbol 476 mentioned on page 19, line 19, (ii) reference 685 of Figure 6 is not mentioned in the specification, and (iii) reference 840 of Figure 8 is not mentioned in the specification.

The reference symbol 476 is a typographical error, and references 685 and 840 were inadvertently left out of the specification. The specification has been amended to correct "476" to --465--, and to add references to

elements 685 and 840. Accordingly, this objection should be withdrawn.

Claim 74 is objected to as depending from itself. This claim has been amended to recite that it depends from claim 73. Accordingly, this objection should be withdrawn.

Rejections under 35 U.S.C. § 101

Claims 1-85 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter -- that is, subject matter not within the technological arts. In particular, the Examiner stated that the inclusion of a computer to input, transmit or output data is a trivial recitation of technology which is not enough to put the claims within the technological art. (See Paper No. 08312005, page 3.) The applicants respectfully request that the Examiner reconsider and withdraw this ground of rejection in view of the following.

First, claims 42-82 are apparatus claims including means-plus-function elements. Computer apparatus is described in the specification in connection with Figure 9. These claims recite more than the trivial input, transmission, or output of data. For example, independent claim 42 recites means for determining one or more keywords using an accepted at least one category. As another example, independent claim 55 recites means for determining one or more keywords using an accepted at least one category and means for determining whether or not to provide at least some of the determined one or more keywords as targeting keywords for an ad using

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accepted advertiser input. As yet another example, independent claim 68 recites means for determining one or more categories using accepted ad information. Thus, apparatus claims 42-82 clearly recite statutory subject matter.

Method claims 1-41 and 83-85 have been amended to recite that the acts of the method are computer-implemented. These claims also recite more than the trivial input, transmission, or output of data. Thus, method claims 1-41 and 83-85, as amended, clearly recite statutory subject matter.

Accordingly, the applicants respectfully request that the Examiner withdraw this ground of rejection.

Rejections under 35 U.S.C. § 102

Claims 1, 3-10, 14, 16-23, 27, 29-36, 40-42, 44-51, 55, 57-64, 68, 70-77 and 81-85 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Application Publication No. 2003/0055816 (referred to as "the Paine publication"). The applicants respectfully request that the Examiner reconsider and withdraw this ground of rejection in view of the following.

Various patentable features of the claimed invention will be described below. First, however, the Paine publication is introduced. On a superficial level, the Paine publication and the present application have some similarities. Specifically, the Paine publication provides an improved tool for finding good search terms for an advertiser's Website while getting rid of the bad ones (See, e.g., paragraph 0012.), while the present invention concerns determining one or more keywords (or

some other serving constraints which may be used for ad targeting). However, looking deeper than these superficial similarities reveals significant, and patentable, differences between the Paine publication and the claimed invention.

The Paine Publication

The Paine publication makes search term recommendations by (i) looking for good search terms directly on an advertiser's Website (referred to as "spidering"), and/or (ii) comparing an advertiser to other, similar, advertisers and recommending the search terms those other advertisers have chosen (referred to as "collaborative filtering"). In at least one embodiment, the output of the spidering step is used as input to the collaborative filtering step. (See, e.g., paragraph 0013.) These techniques are discussed with reference to Figures 10-20 of the Paine publication. As will be substantiated below, neither spidering, nor collaborative filtering (nor their combination), teach an act of (or means for) determining one or more keywords (or some other ad serving constraints) *using at least one category.*

Spidering in the Paine Publication

Spidering is a known technology for downloading a Website rooted at a uniform resource locator (URL). Specifically, a home page of the Website specified by the URL is downloaded and scanned for hyperlinks to other pages, which are similarly downloaded and scanned until the program reaches a predefined link depth, downloads a

predetermined number of pages, or reaches some other stopping criterion. (See, e.g., paragraph 0096.)

Search terms may be determined from this spidering. The search terms may be scored using two factors -- (i) how common a search term is on the World Wide Web, and (ii) how often users search for it. The search terms may then be sorted by either the score quality or by the number of times they have occurred in the downloaded pages. (See, e.g., paragraph 0097.)

As can be appreciated from the foregoing, determining search term recommendations from spidering simply uses terms found in the advertiser's Website, but not categories.

Collaborative Filtering in the Paine Publication

Generally, collaborative filtering is used to make recommendations based on user similarity. For example, if a first user A has purchased an MP3 player, a plasma television, and a digital video recorder, a DVD of the movie "The Incredibles", and a second user B has purchased an MP3 player, a plasma television, and a DVD of the movie "The Incredibles", user B may be determined to be similar to user A on the basis of their common purchases. Since user A has also purchased a digital video recorder, a store may recommend the purchase of a digital video recorder to user B.

In the case of the Paine publication, collaborative filtering is used to make recommendations based on advertiser similarity in terms of search terms that they have used for their ads. More specifically, the Paine publication computes the Pearson correlation between a new advertiser and all of the existing advertisers using

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a numeric rating (e.g., 0 to 5) assigned to each entry in an advertiser/term table. An existing advertiser might get a rating of 5 for every term that it has bid on and a rating of UNKNOWN for every other term. The new advertiser (to which recommendations are to be made) might get a rating of 5 for terms it has accepted, a 1 for terms that it has rejected, and a 2 for every other term. (See, e.g., paragraph 0102.)

Once the collaborative filter has computed the correlation between the new advertiser and the existing advertisers (that is, how similar the new advertiser is to various existing advertisers), the collaborative filter predicts how likely it is that each term is a good search term for the new advertiser. (See, e.g., paragraph 0104.)

As can be appreciated from the foregoing, determining search term recommendations from search terms used by other advertisers using collaborative filtering does not use categories.

Combining Spidering and Collaborative Filtering in the Paine Publication

Spidering and collaborative filtering may be used in combination. For example, spidering may provide recommended search terms which a new advertiser may accept or reject. Given such an initial list of accepted and rejected search terms (which may have ratings based on whether or not the terms were accepted or rejected), collaborative filtering may be used to provide an updated list of search terms which may be accepted or rejected by the new advertiser. Collaborative filtering may be run repeatedly based on the latest list of accepted or

rejected search terms until the user is satisfied. (See, e.g., paragraphs 0107-0112 and Figure 10.)

As can be appreciated from the foregoing, determining search term recommendations using a combination of spidering and collaborative filtering does not use categories.

Patentable Features of the Claimed Invention

Having introduced the Paine publication, various patentable features of the claimed invention are discussed.

Independent claims 1, 14, 42, and 55 are not anticipated by the Paine publication because the Paine publication does not teach an act of (or means for) determining one or more keywords for ad targeting using at least one category. Similarly, independent claims 27 and 68 are not anticipated by the Paine publication because the Paine publication does not teach acts of (or means for) (i) determining one or more categories using ad information, and (ii) determining one or more serving constraints from the one or more categories determined.

In rejecting claims 1, 14, 42 and 55, the Examiner cites the first sentence of paragraph 0107 of the Paine publication as teaching this feature. (See, e.g. Paper No. 08312005, page 5.) This portion of the Paine publication merely discusses that given initial list of accepted and rejected search terms (which may be generated by spidering and which may have ratings based on whether or not the terms were accepted or rejected), collaborative filtering may be used to provide an updated list of search terms which may be accepted or rejected by the new advertiser. Recall that collaborative filtering

may be run repeatedly based on the latest list of accepted or rejected search terms until the user is satisfied. This does not teach an act of (or means for) determining one or more keywords for ad targeting using at least one category as recited. Accordingly, independent claims 1, 14, 42 and 55 are not anticipated by the Paine publication for at least this reason. Since claims 2-10, 16-23, 44-51 and 57-64 depend, either directly or indirectly, from claims 1, 14, 42 and 55, respectively, these claims are similarly not anticipated by the Paine publication.

In rejecting claims 27, 40, 41, 68 and 81-85, the Examiner cites (i) the first three sentences of the Abstract of the Paine publication as teaching determining one or more categories using ad information, and (ii) the first sentence of paragraph 0107 of the Paine publication as teaching recommending one or more of the categories to the advertiser. (See, e.g. Paper No. 08312005, page 5.) These portions of the Paine publication merely concern the fact that appropriate advertisements may be selected in response to a request from a Web page server, and that given initial list of accepted and rejected search terms (which may be generated by spidering and which may have ratings based on whether or not the terms were accepted or rejected), collaborative filtering may be used to provide an updated list of search terms which may be accepted or rejected by the new advertiser. This does not teach acts of (or means for) determining one or more categories using ad information, and determining one or more serving constraints from the one or more categories determined.

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The Examiner reasons that by comparing an advertiser to other similar advertisers, the system of the Paine publication *would have to determine the initial advertiser's product category*. (See Paper No. 08312005, pages 5 and 6.) This is not accurate. As should be appreciated from the introduction of the Paine publication above, the Pearson correlation between the new advertiser and all of the existing advertisers is computed *using a numeric rating (e.g., 0 to 5) assigned to each entry in an advertiser/term table*. To reiterate, an existing advertiser might get a rating of 5 for every term that it has bid on and a rating of UNKNOWN for every other term. The new advertiser (to which recommendations are to be made) might get a rating of 5 for terms it has accepted, a 1 for terms that it has rejected, and a 2 for every other term. (See, e.g., paragraph 0102.) As can be appreciated from the foregoing, the Paine publication does not describe that the new advertiser is compared to existing advertisers on the basis of the new advertiser's product category. Once the collaborative filter has computed the correlation between the new advertiser and the existing advertisers (that is, how similar the new advertiser is to various existing advertisers), the collaborative filter predicts how likely it is that each term is a good search term for the new advertiser. (See, e.g., paragraph 0104.) Again, this has nothing to do with determining the new advertiser's product category.

Thus, independent claims 27 and 68 are not anticipated by the Paine publication for at least the foregoing reasons. Since claims 29-33, 34-36, 40, 41 and 83 depend, either directly or indirectly from claim 27, and since claims 70-77, 81 and 82 depend, either directly

or indirectly, from claim 68, these claims are similarly not anticipated by the Paine publication.

Independent claim 84 is not anticipated by the Paine publication because the Paine publication does not teach determining one or more categories using accepted ad information (as discussed above), nor does it teach recommending at least one of the one or more categories determined to an advertiser. The Examiner cites the first sentence of paragraph 0107 of the Paine publication as teaching this feature. However, as discussed above, the Paine publication recommends search terms used to target the serving of ads, not categories. Thus, claim 84 is not anticipated by the Paine publication for at least these reasons. Since claim 85 depends from claim 84, it is similarly not anticipated by the Paine publication.

Since the Examiner's rejections might be the product of a misunderstanding of the term "category", it is briefly discussed. The ordinary meaning of category is a defined class in a classification system. In the context of the Internet and e-commerce, those skilled in the art appreciate that categories typically pertain to product and service categories. For example, the Website Amazon.com includes product categories including Books, Music, DVD, VHS, Magazines & Newspapers, Computer & Video Games, Software, Electronics, Audio & Video, Camera & Photo, Cell Phones & Service, Computers, Office Products, Musical Instruments, Home & Garden, Automotive, Bed & Bath, Furniture & Décor, Gourmet Food, Kitchen & Housewares, Outdoor Living, Pet Supplies, Tools & Hardware, Apparel & Accessories, Shoes, Jewelry &

Watches, Beauty, Health & Personal Care, Sports & Outdoors, Toys & Games and Baby.

The use of the term "category" in the specification is consistent with the ordinary meaning of category and its meaning in the context of e-commerce. For example, in the illustrative example provided in § 4.3 of the specification, it is described that:

> Category determinations operations 410 may determine various, possibly relevant, categories (and possibly sub-categories) such as:
>
> > *automobiles …*
> > *computers … operating systems …*
> > *music … popular music …*
> > *music … musical instruments …*
> > *animals … mammals … felines …*
> > *movies … foreign films …*
> > *travel … resorts …*
> > *sports & recreation … snorkeling … scuba …*
> > *sports & recreation … football …*
> > *pets … fish*

Page 25, lines 13-26. Embodiments consistent with the present invention use associations between categories and keywords to suggest appropriate keywords. Using categories allows the suggestion of irrelevant keywords (that might occur due to the fact that some words, like "Jaguar" for example, can have multiple meanings), to be avoided.

On the other hand, although the Paine publication also recommends or suggests search terms used when serving ads, it does not use categories as claimed. Rather, it uses spidering (which uses keywords found on a Website -- not categories) and/or collaborative filtering (which uses keywords from other advertisers considered to

be similar to the new advertiser, not categories, based on their use of common keywords) as described above.

Thus, although the present invention addresses a similar problem as the Paine publication, it does so in a patentably distinct way.

Rejections under 35 U.S.C. § 103

Claims 2, 11, 15, 24, 28, 37, 43, 52, 56, 65, 69 and 78 stand rejected under 35 U.S.C. § 103 as being unpatentable over the Paine publication. The applicants respectfully request that the Examiner reconsider and withdraw this ground of rejection in view of the following.

Regarding claims 2, 15, 28, 43, 56 and 69, the Examiner contends that the Paine publication uses a list of good words for an advertisers Website and a list of negative keywords that have no relation to the advertiser's Website, and concludes that it would have been obvious to one skilled in the art to include negative keywords because doing so would allow more accuracy in relation to relevant keywords. (See Paper No. 08312005, page 7.)

First, even assuming, arguendo, that one skilled in the art would have been motivated to modify the Paine publication as proposed by the Examiner, the proposed modification of the Paine publication would not compensate for the deficiencies of the Paine publication with respect to claims 1, 14, 27, 42, 55 and 68 (from which claims 2, 15, 28, 43, 56 and 69, respectively, directly or indirectly depend) discussed above, these

claims are not rendered obvious by the Paine publication
for at least this reason.

Second, one skilled in the art would not have been
motivated to modify the Paine publication as proposed by
the Examiner. Specifically, the positive and negative
scores assigned to keywords is used in the context of
collaborative filtering for determining whether a new
advertiser is similar to an existing advertiser. This
has nothing to do with the use of negative keywords for
controlling the serving of ads. Thus, claims 2, 15, 28,
43, 56 and 69 are not rendered obvious by the Paine
patent for at least this additional reason.

Regarding claims 11, 24, 37, 52, 65, 69 and 78 the
Examiner concedes that the Paine publication does not
discuss the type of ad space that will be used for the ad
on a search site. To compensate for this admitted
deficiency of the Paine publication, the Examiner argues
that it is well-known that when a new ad is added to a
search page, it will be added to an ad spot that would
otherwise been unused, and concludes that it would have
been obvious to one skilled in the art to specify that
the advertisement is to be served on a portion of a
Webpage that would otherwise been unused, because this
would keep the operator of the search site from
overlapping other information with an ad. (Paper No.
08312005, page 7.)

First, even assuming, arguendo, that one skilled in
the art would have been motivated to modify the Paine
publication as proposed by the Examiner, the proposed
modification of the Paine publication would not
compensate for the deficiencies of the Paine publication
with respect to claims 1, 14, 27, 42, 55 and 68 (from

which claims 11, 24, 37, 52, 65 and 78, respectively, indirectly depend) discussed above, these claims are not rendered obvious by the Paine publication for at least this reason.

Second, the invention recited in these claims concerns qualification testing of keyword (or serving constraint) recommendations. (See, e.g., Figure 8 of the present application.) As stated, "In one embodiment of the present invention, the serving of the ads using trial targeting keyword (s) may be limited to ad spots (inventory) that otherwise would be unused." Page 22, line 30 through page 23, line 1. In this way, testing of keyword recommendations has a minimal impact on the system.

As used in the art, the term "ad spot" means a portion of a document, such as a Web page, available to show ads -- it does not mean any spot on a document. As described in the specification:

> Suppose that the Web page has ten
> (10) ad spots and ten (10) ads are
> served. In this case, there are
> no unused ad spots, and the
> information 560 need not be
> updated. If, however, the Web
> page has ten (10) ad spots and
> only three (3) ads are served,
> there are seven (7) unused ad
> spots.

Page 20, lines 4-8. The claims have been amended to more clearly recite that the ads served using the keyword as an ad targeting keyword by the means for performing qualification testing of a keyword are only served on available ad spots that otherwise would be unused by any

ads. The claims, as amended, are more clearly distinguished over the Paine publication.

Claims 12, 13, 25, 26, 38, 39, 53, 54, 66, 67, 79 and 80 stand rejected under 35 U.S.C. § 103 as being unpatentable over the Paine publication in view of U.S. Patent No. 6,144,944 (referred to as "the Kurtzman patent"). The applicants respectfully request that the Examiner reconsider and withdraw this ground of rejection in view of the following.

The Examiner concedes that the Paine publication does not teach ordering ads based on an amount left in unused inventory. To compensate for this admitted deficiency, the Examiner argues that the Kurtzman patent teaches a system that displays ads based on inventory levels and concludes that it would have been obvious to one skilled in the art to include this feature in the Paine system to allow all advertisers to receive the same exposure for their ads. (See Paper No. 08312005, page 8.)

First, even assuming, arguendo, that the Kurtzman patent includes the purported teaching and that one skilled in the art would have been motivated to combine the Paine publication and Kurtzman patent as proposed by the Examiner, the proposed combination would not compensate for the deficiencies of the Paine publication with respect to claims 1, 14, 27, 42, 55 and 68 (from which claims 12 and 13, 25 and 26, 38 and 39, 53 and 54, 66 and 67, and 79 and 80, respectively, depend) discussed above. Therefore, these claims are not rendered obvious by the Paine publication and the Kurtzman patent for at least this reason.

Second, the claims concern providing determined *keywords* in an order determined using unused inventory information, not displaying *ads* based on inventory as purportedly taught by the Kurtzman patent. Thus, these claims are not rendered obvious by the Paine publication and the Kurtzman patent for at least this additional reason.

Third, contrary to the Examiner's position, one skilled in the art would not be motivated to give all advertisers the same exposure for their ads. Most advertising systems account for advertiser budgets and how much advertisers are willing to pay for ad impressions, ad click-throughs, etc.

Fourth, with regard to claims 13, 26, 39, 54, 67 and 80, these claims recite that the determined one more keywords are provided in an order determined using unused inventory information *such that a keyword corresponding to a larger number of unused ad spots is provided before another keyword corresponding to a smaller number of unused ad spots*. This feature is not even addressed in the Office Action. Accordingly, a prima facie showing of obviousness has not been made with respect to these claims.

Conclusion

In view of the foregoing amendments and remarks, the applicants respectfully submit that the pending claims are in condition for allowance. Accordingly, the applicants request that the Examiner pass this application to issue.

Respectfully submitted,

December 14, 2005

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